Prevention of Significant Air Quality Deterioration Review

Preliminary Determination

October 5, 2018

Facility Name: West Fraser – Fitzgerald Lumber Mill

City: Fitzgerald County: Ben Hill

AIRS Number: 04-13-017-00008 Application Number: TV-234867 Date Application Received: April 18, 2018

Review Conducted by:
State of Georgia - Department of Natural Resources
Environmental Protection Division - Air Protection Branch
Stationary Source Permitting Program

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SUMMARY

The Environmental Protection Division (EPD) has reviewed the application submitted by West Fraser – Fitzgerald Lumber Mill for a permit to replace three existing batch drying kilns (ID Nos. KL01, KL02, and KL03) with two continuous drying kilns (ID Nos. CDK1 and CDK2). Each of the batch drying kilns has an annual capacity of 60 million board feet (MMbf). The new kilns will be wood-fired continuous kilns, each with a capacity of 120 MMbf/yr. The facility also requested to incorporate the off-permit-change that was approved on April 10, 2018, for replacing the planer mill (ID No. PL) and its cyclone (PLCY) with a new planer mill (ID No. PL) and a new cyclone (ID No. PLCY2), into the permit amendment.

The proposed project will result in an increase in emissions from the facility. The sources of these increases in emissions include the new direct-fired continuous drying kilns (ID Nos. CDK1 and CDK2).

The modification of West Fraser – Fitzgerald Lumber Mill due to this project will result in an emissions increase in nitrogen oxides (NOx), carbon monoxide (CO), volatile organic compounds (VOC), sulfur dioxide (SO₂), particulate matter (PM/PM₁₀/PM_{2.5}), single and combined hazardous air pollutants (HAP), and total greenhouse gases (Total GHG). A Prevention of Significant Deterioration (PSD) analysis was performed for the facility for all pollutants to determine if any increase was above the "significance" level. The VOC emissions increase was above the PSD significant level threshold.

West Fraser – Fitzgerald Lumber Mill is located in Ben Hill County, which is classified as "attainment" or "unclassifiable" for SO₂, PM_{2.5} and PM₁₀, NO_X, CO, and ozone (VOC).

The EPD review of the data submitted by West Fraser – Fitzgerald Lumber Mill related to the proposed modifications indicates that the project will be in compliance with all applicable state and federal air quality regulations.

It is the preliminary determination of the EPD that the proposal provides for the application of Best Available Control Technology (BACT) for the control of VOC, as required by federal PSD regulation 40 CFR 52.21(j).

It has been determined through approved modeling techniques that the estimated emissions will not cause or contribute to a violation of any ambient air standard or allowable PSD increment in the area surrounding the facility or in Class I areas located within 200 km of the facility. It has further been determined that the proposal will not cause impairment of visibility or detrimental effects on soils or vegetation. Any air quality impacts produced by project-related growth should be inconsequential.

This Preliminary Determination concludes that an Air Quality Permit should be issued to West Fraser – Fitzgerald Lumber Mill for the modifications necessary to construct and operate the two new direct-fired continuous drying kilns (ID Nos. CDK1 and CDK2). Various conditions have been incorporated into the current Title V operating permit to ensure and confirm compliance with all applicable air quality regulations. A copy of the draft permit amendment is included in Appendix A. This Preliminary Determination also acts as a narrative for the Title V Permit.

1.0 INTRODUCTION – FACILITY INFORMATION AND EMISSIONS DATA

On April 18, 2018, West Fraser – Fitzgerald Lumber Mill (hereafter "facility") submitted an application for an air quality permit to construct and operate two direct natural gas-fired continuous kilns (ID Nos. CDK1 and CDK2) that will replace existing batch Kilns KL01, KL02, and KL03. The facility also requested to incorporate the off-permit-change that was approved on April 10, 2018, for replacing the planer mill (ID No. PL) and its cyclone (PLCY) with a new planer mill (ID No. PL) and a new cyclone (ID No. PLCY2), into the permit amendment. The facility is located at 173 Peachtree Road in Fitzgerald, Ben Hill County.

Table 1.1 summarizes the Title V major source status for the facility. Note that after the proposed modification in Application No. TV-234867, the facility is major for VOC, carbon monoxide (CO), and single/combined hazardous air pollutants (HAP) under Title V of 1990 CAAA and is major for VOC under PSD regulations.

Table 1-1: Title V Major Source Status

Table 1-1. Titl	Is the	If emitted, what is the facility's Title V status for the Pollutant?				
Pollutant	Pollutant Emitted?	Major Source Status	Major Source Requesting SM Status	Non-Major Source Status		
PM	Yes			\checkmark		
PM_{10}	Yes			✓		
PM _{2.5}	Yes			✓		
SO_2	Yes			✓		
VOC	Yes	✓				
NO _x	Yes			✓		
CO	Yes	✓				
TRS	N/A					
H ₂ S	N/A					
Individual HAP	Yes	✓				
Total HAPs	Yes	✓				
Total GHGs	Yes			✓		

Table 1-2 below lists all current Title V permits, all amendments, 502(b)(10) changes, and off-permit changes, issued to the facility, based on a review of the "Permit" file(s) on the facility found in the Air Branch office.

Table 1-2: List of Current Permits, Amendments, and Off-Permit Changes

Permit Number and/or Off-Permit	Date of Issuance/	Purpose of Issuance
Change	Effectiveness	
2421-017-0008-V-05-0	October 16, 2017	Ownership change from Gilman Building Products
		to West Fraser. Permit is good through January 12,
		2021.
Off-Permit-Change	April 10, 2018	Replacing existing planer mill with a new planer
_	-	mill.

Based on the proposed project description and data provided in the permit application, the estimated net emission increases caused by the proposed modification are listed in Table 1-3 below:

Table 1-3: Net Change in Emissions Due to the Major PSD Modification

Pollutant	Baseline Years	Past Actual	Future Actual	Associated Units Increase	Total Increase	PSD Significant Emission Rate	Subject to PSD Review
PM	2016 - 2017	9.506	16.80	1.990	9.284	25	No
PM_{10}	2016 - 2017	7.062	12.48	1.900	7.318	15	No
$PM_{2.5}$	2016 - 2017	6.722	11.88	1.650	6.808	10	No
VOC	2016 - 2017	271.6	480.0	0	208.4	40	Yes
NO_X	2016 - 2017	19.01	33.60	0	14.59	40	No
CO	2016 - 2017	49.57	87.60	0	38.03	100	No
SO_2	2016 - 2017	3.966	7.008	0	3.042	40	No
TRS	N/A	N/A	N/A	N/A	N/A	10	No
Pb	N/A	N/A	N/A	N/A	N/A	0.6	No
Fluorides	N/A	N/A	N/A	N/A	N/A	3	No
H_2S	N/A	N/A	N/A	N/A	N/A	10	No
SAM	N/A	N/A	N/A	N/A	N/A	7	No
Total GHG	2016 – 2017	33,140	58,620	0	25,480	75,000	No

The definition of baseline actual emissions is the average emission rate, in tons per year, at which the emission unit actually emitted the pollutant during any consecutive 24-month period selected by the facility within the 10-year period immediately proceeding the date a complete permit application was received by EPD. The net increases were calculated by subtracting the past actual emissions (based upon the annual average emissions from January 2016 through December 2017) from the future projected actual emissions of the new drying kilns (ID Nos. CDK1 and CDK2) and associated emission increases from non-modified equipment. Table 1-3 details this emissions summary. The emissions calculations for Table 1-3 can be found in detail in the facility's PSD application (see Table Section A of Application No. TV-234867).

Baseline actual emissions are calculated using the actual process records of Drying Kilns KL01, KL02, and KL03, which will be replaced by Drying Kilns CDK1 and CDK2. Future projected actual emissions of Drying Kilns CDK1 and CDK2 are calculated using their design annual throughput rate, 120 MMbf/yr each kiln; therefore, future projected actual emissions in this modification are future potential emissions of the new kilns.

Note that the increased lumber drying capacity by adding new Drying Kilns CDK1 and CDK2 will also increase the amount of lumber processed by the existing lumber processes (debarking, handling, sawing, and planning). Although most of the emissions from these processes are fugitive emissions (which could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening), the Georgia EPD PSD Permit Application Guidance Document (Section 2.2.2 on p. 2-3) requires that the fugitive emissions be included in determining whether a physical change in a major stationary source would trigger the classification of "major modification" as defined in Georgia Rule 391-3-1-.02(7)2. Per 76 FR 17548 dated March 30, 2011, U.S. EPA issued an indefinite stay of the Fugitive Emissions Rule until U.S. EPA completes its reconsideration of the Fugitive Emissions Rule; therefore, the provisions of 40 CFR 52.21(b)(2)(v) have been indefinitely stayed. Therefore, emission changes of the planer mill and hammer mill are included in the calculation.

These calculations have been reviewed and approved by the Division.

Based on the information presented in Table 1-3 above, West Fraser – Fitzgerald Lumber Mill's proposed modification, as specified per Georgia Air Quality Application No. TV-234867, is classified as a major modification under PSD because the net increase of VOC emissions (208.4 tpy) exceeds the corresponding PSD Significant Emission Rate (40 tpy).

Through its new source review procedure, EPD has evaluated West Fraser – Fitzgerald Lumber Mill's proposal for compliance with State and Federal requirements. The findings of EPD have been assembled in this Preliminary Determination.

2.0 PROCESS DESCRIPTION

According to Application No. TV-234867, West Fraser – Fitzgerald Lumber Mill has proposed to replace existing batch drying kilns (ID Nos. KL01, KL02, and KL03) with two new continuous drying kilns(ID Nos. CDK1 and CDK2). Each of the new continuous drying kilns will be a direct wood-fired unit, and has a design throughput capacity of 120 MMbf/yr. The facility also requested to incorporate the off-permit-change that was approved on April 10, 2018, for replacing the planer mill (ID No. PL) and its cyclone (PLCY) with a new planer mill (ID No. PL) and a new cyclone (ID No. PLCY2), into the permit amendment.

The West Fraser – Fitzgerald Lumber Mill permit application and supporting documentation are included in Appendix A of this Preliminary Determination and can be found online at www.georgiaair.org/airpermit.

3.0 REVIEW OF APPLICABLE RULES AND REGULATIONS

State Rules

Georgia Rule for Air Quality Control (Georgia Rule) 391-3-1-.03(1) requires that any person prior to beginning the construction or modification of any facility which may result in an increase in air pollution shall obtain a permit for the construction or modification of such facility from the Director upon a determination by the Director that the facility can reasonably be expected to comply with all the provisions of the Act and the rules and regulations promulgated thereunder. Georgia Rule 391-3-1-.03(8)(b) continues that no permit to construct a new stationary source or modify an existing stationary source shall be issued unless such proposed source meets all the requirements for review and for obtaining a permit prescribed in Title I, Part C of the Federal Act [i.e., Prevention of Significant Deterioration of Air Quality (PSD)], and Section 391-3-1-.02(7) of the Georgia Rules (i.e., PSD).

The new continuous drying kilns (ID Nos. CDK1 and CDK2) are subject to Georgia Rules for Air Quality Control 391-3-1-.02(2)(b), "Visible Emissions." Georgia Rule 391-3-1-.02(2)(b)1. limits the opacity of the emissions from CDK1 and CDK2 to forty (40) percent. With the operating nature of the direct wood-fired kilns, compliance with the Rule (b) visible emission limit is expected.

Each of CDK1 and CDK2 is also subject to Georgia Rules for Air Quality Control 391-3-1-.02(2)(e), "Particulate Emission from Manufacturing Processes." Since both kilns are installed after July 2, 1968, the allowable PM emission rates from CDK1 and CDK2 are specified by Georgia Rule 391-3-1-.02(2)(e)1.(i), which is stated as follows:

$$E = 4.1 * P^{0.67}$$
 for process input weight rate up to and including 30 tons per hour.
 $E = 55 * P^{0.11} - 40$ for process input weight rate above 30 tons per hour.

Where E equals the allowable PM emission rate in pounds per hour and P equals the process input weight rate in tons per hour.

Compliance with the GA Rule (e) PM emission standards are expected as follows.

	Process Input	Process Input	Allowable Emission Rate
Name/ID No.	Weight Rate (P)	Weight Rate (P)	(E)
	(bf/hr)	(tons/hr)	(lbs PM / hr)
Drying Kiln CDK1	13,700	27.4	$P = 4.1 * 27.4^{0.67} = 37.7$
Drying Kiln CDK2	13,700	27.4	$P = 4.1 * 27.4^{0.67} = 37.7$

$$1 ext{ ft}^3 = 12 ext{ bf}$$

Assumed Wood Density = $48 ext{ lbs/ft}^3$

120,000,000 bf/yr

- $= 13,700 \, bf/hr$
- = $(13,700 \text{ bf/hr}) * (1 \text{ ft}^3/12\text{bf}) * (48 \text{ lbs/ft}^3) * (1 \text{ ton/2,000 lbs})$
- = 27.4 tph

PM Emission Rate of CDK1 and CDK2, Each

- = (0.14 lb PM/1,000bf) * (13,700 bf/hr)
- = 1.92 lbs PM/hr < 37.7 lbs PM/hr

Since CDK1 and CDK2 are direct fired units, they are subject to the fuel sulfur requirement (≤ 2.5% sulfur) specified in Georgia Rules for Air Quality Control 391-3-1-.02(2)(g), "Sulfur Dioxide." Compliance with Georgia Rule (g) for CDK1 and CDK2 is always expected because they both fire on wood only, and wood contains negligible sulfur content.

Federal Rule - PSD

The regulations for PSD in 40 CFR 52.21 require that any new major source or modification of an existing major source be reviewed to determine the potential emissions of all pollutants subject to regulations under the Clean Air Act. The PSD review requirements apply to any new or modified source which belongs to one of 28 specific source categories having potential emissions of 100 tons per year or more of any regulated pollutant, or to all other sources having potential emissions of 250 tons per year or more of any regulated pollutant. They also apply to any modification of a major stationary source which results in a significant net emission increase of any regulated pollutant.

Georgia has adopted a regulatory program for PSD permits, which the United States Environmental Protection Agency (EPA) has approved as part of Georgia's State Implementation Plan (SIP). This regulatory program is located in the Georgia Rules at 391-3-1-.02(7). This means that Georgia EPD issues PSD permits for new major sources pursuant to the requirements of Georgia's regulations. It also means that Georgia EPD considers, but is not legally bound to accept, EPA comments or guidance. A commonly used source of EPA guidance on PSD permitting is EPA's Draft October 1990 New Source Review Workshop Manual for Prevention of Significant Deterioration and Nonattainment Area Permitting (NSR Workshop Manual). The NSR Workshop Manual is a comprehensive guidance document on the entire PSD permitting process.

The PSD regulations require that any major stationary source or major modification subject to the regulations meet the following requirements:

- Application of BACT for each regulated pollutant that would be emitted in significant amounts;
- Analysis of the ambient air impact;
- Analysis of the impact on soils, vegetation, and visibility;
- Analysis of the impact on Class I areas; and
- Public notification of the proposed plant in a newspaper of general circulation

The following is a discussion of the applicable federal rules and regulations pertaining to the equipment that is the subject of this preliminary determination, which is then followed by the top-down BACT analysis.

New Source Performance Standards

The new drying kilns (ID No. CDK1 and CDK2) are not subject to any NSPS.

National Emissions Standards For Hazardous Air Pollutants

Per 40 CFR 63.2231, the facility is subject to 40 CFR 63 Subpart DDDD, "National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products," (a.k.a. PCWP MACT) because it is major for single and combined HAP emissions and is a plywood and composite wood products manufacturing facility that manufactures kiln-dried lumber. Please note that the kilns are not subject to any compliance options specified in Tables 1A and 1B to Subpart DDDD, any operating requirements specified in Table 2 to Subpart DDDD, or any work practice requirements specified in Table 3 to Subpart DDDD. According to 40 CFR 63.2252, the facility is only subject to the initial notification requirements specified in 40 CFR 63.9(b). By submitting Application No. TV-234867, the Division has determined that the facility has met the initial notification requirements. Therefore, new Kilns CDK1 and CDK2 are subject to this rule, but are not subject to any requirements.

State and Federal – Startup and Shutdown and Excess Emissions

Excess emission provisions for startup, shutdown, and malfunction are provided in Georgia Rule 391-3-1-.02(2)(a)7. Excess emissions from the new drying kilns (ID Nos. CDK1 and CDK2) associated with the proposed project would most likely results from a malfunction of the associated control equipment. The facility cannot anticipate or predict malfunctions. However, the facility is required to minimize emissions during periods of startup, shutdown, and malfunction.

Federal Rule – 40 CFR 64 – Compliance Assurance Monitoring

Under 40 CFR 64, the *Compliance Assurance Monitoring* Regulations (CAM), facilities are required to prepare and submit monitoring plans for certain emission units with the Title V application. The CAM Plans provide an on-going and reasonable assurance of compliance with emission limits. Under the general applicability criteria, this regulation applies to units that use a control device to achieve compliance with an emission limit and whose pre-controlled emissions levels exceed the major source thresholds under the Title V permitting program. Although other units may potentially be subject to CAM upon renewal of the Title V operating permit, such units are not being modified under the proposed project and need not be considered for CAM applicability at this time.

This applicability evaluation only addresses the new drying kilns (ID Nos. CDK1 and CDK2), which does not employ any air pollution control devices; therefore, the CAM requirements are not triggered by the proposed modification.

4.0 CONTROL TECHNOLOGY REVIEW

The proposed project will result in emissions that are significant enough to trigger PSD review for the following pollutants: VOC.

Drying Kilns CDK1 and CDK2 – Background

The new drying kilns (ID Nos. CDK1 and CDK2) are each a direct-fired continuous kiln that fires exclusively on wood. Each kiln has a design throughput capacity of 120 MMbf/yr, and each has a burner capacity of 32 MMBtu/hr. The primary purpose of Drying Kilns CDK1 and CDK2 is to lower the moisture content in the lumber to a desired level before sending the lumber to the planer mill and other downstream processes.

Definition of BACT

The PSD regulation requires that BACT be applied to all regulated air pollutants emitted in significant amounts. Section 169 of the Clean Air Act defines BACT as an emission limitation reflecting the maximum degree of reduction that the permitting authority (in this case, EPD), on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such a facility through application of production processes and available methods, systems, and techniques. In all cases BACT must establish emission limitations or specific design characteristics at least as stringent as applicable New Source Performance Standards (NSPS). In addition, if EPD determines that there is no economically reasonable or technologically feasible way to measure the emissions, and hence to impose and enforceable emissions standard, it may require the source to use a design, equipment, work practice or operations standard or combination thereof, to reduce emissions of the pollutant to the maximum extent practicable.

EPA's NSR Workshop Manual includes guidance on the 5-step top-down process for determining BACT. In general, Georgia EPD requires PSD permit applicants to use the top-down process in the BACT analysis, which EPA reviews. The five steps of a top-down BACT review procedure identified by EPA per BACT guidelines are listed below:

- Step 1: Identification of all control technologies;
- Step 2: Elimination of technically infeasible options;
- Step 3: Ranking of remaining control technologies by control effectiveness;
- Step 4: Evaluation of the most effective controls and documentation of results; and
- Step 5: Selection of BACT.

Drying Kilns CDK1/CDK2 – VOC Emissions

Applicant's Proposal

Both combustion of wood in the kiln burner and continuous drying of the southern pine lumber would generate VOC emissions. Note that the National Council for Air and Stream Improvement (NCASI) VOC emission factor would include both VOC emissions from wood combustion and lumber drying. The facility proposed the following BACT analysis for VOC emissions from the new kiln.

Step 1: Identify all control technologies

The facility considered VOC emissions control techniques/technologies as noted below.

Option 1: Wet Scrubbers

Option 2: Thermal and Catalytic Oxidizers

Option 3: Activated Carbon or Biofilters

Option 4: Condensers

Option 5: Proper Kiln Design and Operation

Option 1: Wet Scrubbers

The wet scrubbing control technology consists of a transfer of VOC compounds in the gas stream by passing the stream through a countercurrent flow of a scrubbing liquid. Pollutants are impacted by the liquid droplets and dissolve in the liquid. This technology is used in many control applications.

Option 2: Thermal and Catalytic Oxidizers

The two commonly used oxidizer types are thermal and catalytic. In a regenerative thermal oxidizer (RTO), the VOC compounds in the exhaust gas enter the combustion chamber where it is oxidized into carbon dioxide and water vapor. Typical combustion chamber temperature is maintained around 1,400°F to 1,500°F. A regenerative catalytic oxidizer (RCO) operates in the same manner as a thermal oxidizer, except that it uses a catalyst material in the packed bed. The use of a catalyst allows for oxidation of VOC at a lower temperature of around 800°F.

Option 3: Activated Carbon or Biofilters

This technology uses the adhesion of VOC molecules in the gas stream onto the surface of a solid substrate.

Carbon adsorption systems use an activated carbon bed to trap VOC. As the exhaust gas stream passes through the activated carbon bed, VOC molecules are attracted to the surface of the activated carbon. The clean exhaust gas is then discharged to the atmosphere. When the activated carbon is spent and can no longer effectively adsorb VOC, the carbon can be reactivated either by heating with steam or by vacuuming to remove VOC from the surface. Reactivation can occur on-site, or the spent carbon may be returned to the supplier for reactivation.

Biofilters involves the use of microbes which remove organics from the exhaust gas stream by feeding on the organic material. The exhaust gas stream from the exhaust is directed through the bed media in which the microbes live. Organics are adsorbed by moisture in the bed media and come into contact with the microbes. The microbes reduce the concentration of organics by consuming the organic material. The cleaned air is then discharged to the atmosphere.

Option 4: Condensers

Condensers operate by cooling the gas stream below the vaporization point for the VOCs; thus converting VOC in the exhaust gas from the vapor phase to the liquid phase. The phase change is usually accomplished by decreasing the temperature of the gas stream, but it can also be accomplished by increasing the pressure of the gas stream enough to cause the vapor to liquefy. The condensate can either be disposed through a wastewater treatment system or can be recycled by distillation.

Option 5: Proper Kiln Design and Operation

Process control or optimization uses proper lumber kiln operation techniques which include the necessary process monitoring instruments, process control equipment, schedule equipment inspection and maintenance in accordance with manufacturer's recommendations. Process controls are used to maintain proper moisture and temperature settings to optimize the kiln drying operation. Proper kiln temperature and humidity settings can minimize the VOCs emitted from the kilns

The Division has reviewed Step 1 of the applicant's analysis and agrees with its findings.

Step 2: Eliminate technically infeasible options

Option 1: Wet Scrubbers

Wet scrubbers are used in many control applications but are not well suited for VOC controls for a lumber kiln. The VOC emissions from a lumber kiln consist mostly of terpenes, which have low water solubility. Further, the viscous condensate would result in frequent plugging of the equipment. Therefore, wet scrubbers are not considered technically feasible for controlling VOC emissions from a lumber kiln.

Option 2: Thermal and Catalytic Oxidizers

The exhaust gas stream from a kiln has a temperature of around 220°F and also has a high moisture content. The high moisture content and relatively low exit temperature of the exhaust gas makes an RTO unsuitable. Particulates present in the exhaust gas could also cause fouling of the ceramic material. The fouled ceramic would not provide the necessary preheating needed for the RTO be effective. An RCO would be an ineffective option for the same reasons as an RTO. Particulates in the exhaust gas are an even bigger problem for an RCO. The catalytic material becomes coated with PM, and the coated sections are unable to act as a catalyst in the oxidation of VOCs entering the unit. For these reasons, thermal oxidation by an RTO or an RCO is deemed to be technically infeasible.

Option 3: Activated Carbon or Biofilters

The gas stream from the lumber kiln is very high in moisture content. That moisture preferentially condenses onto the adsorbent surface leaving less area available for the VOC molecules thus reducing control efficiency. The control equipment sizing is also complicated by the variable flow rates. Most adsorption units are not recommended for the higher operating

temperatures encountered with lumber kilns. Lumber kilns typically operate in a temperature range that is used to desorb VOC from activated carbon. Further, the viscous condensate from any cooling system that could be utilized would result in frequent plugging of the adsorption equipment.

Option 4: Condensers

Condensers are mostly effective for applications where there is high VOC concentration in the gas stream, of around 5,000 ppmvd. In the typical lumber kiln exhaust, the concentration is highly variable and usually below 1,000 ppm. Further, the viscous condensate from the condenser would result in frequent equipment plugging and related maintenance challenges.

Step 3: Ranking the Remaining Control Technologies by Control Effectiveness

In this step of the top down BACT analysis, the remaining technically feasible options are ranked in order of their control efficiencies. There is only one technically feasible option which is shown below.

Table 4-1: Ranking of CO Control Technology for Heaters F001 and F002

Control Technology Ranking	Control Technology	Control Efficiency
Option 5	Proper Kiln Design and Operation	Variable due to design

Step 4: Evaluating the Most Effective Controls and Documentation

Since the only technically feasible BACT option is Proper Kiln Design and Operation, further evaluation of controls is not necessary.

Step 5: Selection of BACT

The applicant has identified BACT as Proper Kiln Design and Operation.

BACT is generally an emission limit. However, in the case of continuous kilns which are an emerging technology, enough test data does not exist to impose a limit on the facility. Therefore, BACT in this case is not a numerical value but proper maintenance and work practices. Work practice standards will include proper maintenance of the kiln and the wood burner and minimizing over-drying and recordkeeping of good combustion practices.

EPD Review – VOC Control

The Division agrees with the facility that wet scrubbing is technically infeasible because of low solubility of terpenes. The Division also agrees that thermal and catalytic oxidizers are technically infeasible because of high moisture content and relatively low temperature of the exhaust stream and VOC concentration variation. Activated carbon or biofilters are also technically infeasible because of the high moisture content of the exhaust gas stream and the exhaust temperature. Condensers are also technically infeasible because of the relatively low

and varying VOC concentration in the exhaust. Also, plugging of equipment due to the viscous condensate would pose a challenge to wet scrubbing, activated carbon/biofilters, and condensers.

The Division reviewed all of the RBLC entries for VOC from continuous lumber drying kilns since 2002. This review showed that none of the entries require an add-on control device for VOC and that BACT is Proper Maintenance and Operating Practices.

The Division agrees that the only technically feasible option is Proper Kiln Design and Operation. The Division would require that facility demonstrate that they actually employ proper kiln operation and maintenance practices; therefore, the BACT determination would require that the facility develop and implement a Work Practice and Preventive Maintenance Program for Drying Kilns CDK1 and CDK2. Such program must include a minimum list of items that commonly applicable to other similar sources that also went through a VOC PSD review. These are included in Condition 3.2.7 of the proposed Title V permit amendment.

The facility also proposes to use the design throughput rate, 240 MMbf/yr for Drying Kilns, combined, as the long term BACT limit. This is included in Condition 3.2.5 of the proposed Title V permit amendment.

Conclusion – VOC Control

The BACT selection for the Drying Kilns CDK1 and CDK2 is summarized below in Table 4-1:

Table 4-1: BACT Summary for the drying kilns (ID Nos. CDK1 and CDK2)

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Pollutant	Control Technology	Proposed BACT Limit	Averaging Time	Compliance Determination Method
VOC	Proper Kiln Design and Operation	Work Practice and Preventive Maintenance Program	N/A	N/A

5.0 TESTING AND MONITORING REQUIREMENTS

Testing Requirements:

In the facility's toxic impact assessment, the facility assumed 100% of the kiln exhaust exit the kilns through their power vents, and the doors have zero emissions. Therefore, the facility is required to operate the power vents so that no air/exhaust in the kiln would exit any openings other than the power vents, especially the kiln doors. In order to verify this, the facility is required to test and demonstrate that each of the kilns (ID Nos. CDK1 and CDK2) meets the permanent total enclosure requirements defined in EPA Method 204.

In order to verify that each kiln is a permanent total enclosure, the facility must demonstrate, using Method 204, that the differential pressure across each opening of the kilns other than the power vents shows a vacuum meeting the definition of permanent total enclosures in Method 204. During the performance tests, the facility must establish a minimum differential pressure that guarantees no air would escape from the kilns through the doors. The facility may also establish the minimum power vent flow rate that will generate the minimum differential pressure across each opening.

Monitoring Requirements:

There are no applicable monitor requirements being imposed. Note that there are some inspection/monitoring requirements specified in the Work Practice and Preventive Maintenance Program required by Condition 3.2.7.

Note that the ID number for the planer mill cyclone has been updated in Condition 5.2.1.

CAM Applicability:

Because there is no control for the new drying kilns (ID Nos. CDK1 and CDK2), CAM is not applicable and is not being triggered by the proposed modification. Therefore, no CAM provisions are being incorporated into the facility's permit.

6.0 AMBIENT AIR QUALITY REVIEW

An air quality analysis is required to determine the ambient impacts associated with the construction and operation of the proposed modifications. The main purpose of the air quality analysis is to demonstrate that emissions emitted from the proposed modifications, in conjunction with other applicable emissions from existing sources (including secondary emissions from growth associated with the new project), will not cause or contribute to a violation of any applicable National Ambient Air Quality Standard (NAAQS) or PSD increment in a Class I or Class II area. NAAQS exist for NO₂, CO, PM_{2.5}, PM₁₀, SO₂, Ozone (O₃), and lead. PSD increments exist for SO₂, NO₂, and PM₁₀.

The proposed project at West Fraser – Fitzgerald Lumber Mill triggers PSD review for VOC. VOC does not have established PSD modeling significance levels (MSL) (an ambient concentration expressed in either $\mu g/m^3$ or ppm). Therefore, modeling is not required for VOC emissions. However, an ozone analysis is required since VOC emission increases are greater than 100 tpy. An additional analysis was conducted to demonstrate compliance with the Georgia air toxics program.

Modeling Requirements

Class I Area Analysis

Federal Class I areas are regions of special national or regional value from a natural, scenic, recreational, or historic perspective. Class I areas are afforded the highest degree of protection among the types of areas classified under the PSD regulations. U.S. EPA has established policies and procedures that generally restrict consideration of impacts of a PSD source on Class I Increments to facilities that are located near a federal Class I area. Historically, a distance of 100 km has been used to define "near", but more recently, a distance of 300 kilometers has been used for all facilities that do not combust coal.

The three Class I areas within approximately 200 kilometers of West Fraser – Fitzgerald Lumber Mill (approximate distance)

• Okefenokee National Wildlife Refuge (NWR) – 144 kilometers (Southeast)

• Wolf Island NWR – 184 kilometers (East)

• St. Marks NWR – 200 kilometers (Southwest)

The proposed project would cause a significant net emissions increase only of VOC, which is not a visibility or deposition-affecting pollutant and for which there are no Class I PSD increment. For this reason and because the project would not cause significant increases of NOx, SO₂, or PM that may affect visibility or deposition and for which PSD Class I Increments have been established, Class I area impact analysis is not required.

Class II Area Analysis

VOC is the only criteria pollutant with emissions greater than the SER (40 tpy), therefore neither Class II area significant impact analysis, nor monitoring De Minimis concentration analysis are required.

Ozone Impact Analysis

Since no significant air quality concentration has been established for the ozone impact analysis, PSD permit applicants with a proposed net emission increase of 100 tons/year or more of VOC and/or NOx are required to conduct an ambient air impact analysis that includes pre-application monitoring data to determine the current state of the ambient air conditions for this pollutant.

The proposed project is expected to emit 208.4 tpy VOC. The nearest ozone monitor to facility is located approximately 100 km northwest at Leslie, Sumter County, Georgia (AQS ID 13-261-1001). Given this proximity and regional nature of background ozone, the GA EPD Leslie monitor provides a representative indication of ozone concentrations in the vicinity of facility. The applicant examined the 3-year rolling average ozone concentration at this monitor. The latest design value (i.e., 3-year average of 4th highest maximum daily 8-hour ozone concentrations during 2015-2017) is 60 ppb. This area is in attainment with the 2015 ozone National Ambient Air Quality Standard (NAAQS, 70 ppb).

Because ozone formation is NOx limited in the southeast, the increase in VOC emissions from the proposed project is not expected to significantly affect ozone concentrations in the vicinity of or downwind of West Fraser – Fitzgerald Lumber Mill. Further, NOx emissions are primarily emitted from mobile and industrial sources.

The proposed project will not cause a permanent increase in mobile source traffic in the area and as an industrial source has a minimal increase of NOx emissions.

As required by the 2017 revisions to EPA's *Guideline on Air Quality Models* (Appendix W), an analysis of the impact of the projected VOC and NOx emissions on secondary ozone formation was required following the EPA's "*Guidance on the Development of Modeled Emission Rates for Precursors (MERPs) as a Tier l Demonstration Tool for Ozone and PM2.5 under the PSD Permitting Program*" (December 2, 2016), and GA EPD's "Guidance on the Use of EPA's MERPs to Account for Secondary Formation of Ozone and PM2.5 in Georgia" (July 11, 2018). According to the GA EPD's guidance document, the most conservative (lowest) VOC and NOx MERP values for ozone in Georgia are 3,980 tpy and 156 tpy respectively. The projected VOC emission increase of 208.4 tpy equates to an ozone impact of 0.052 ppb (= 208.4/3,980 *1 ppb), and the projected NOx emission increase of 14.59 tpy equates to an ozone impact of 0.094 ppb (= 14.59/156 *1 ppb). The total impact of 0.146 ppb (= 0.052+0.094) is below the ozone significant impact level (SIL) (1 ppb). Hence, no further MERP analysis is required.

7.0 ADDITIONAL IMPACT ANALYSES

PSD requires an analysis of impairment to visibility, soils, and vegetation that will occur as a result of a modification to the facility and an analysis of the air quality impact projected for the area as a result of the general commercial, residential, and other growth associated with the proposed project.

Soils and Vegetation

This analysis is required only for those pollutants for which PSD review is triggered. According to A Screening Procedure for the Impacts of Air Pollution on Plants, Soils and Animals, the relevant pollutants for soils and vegetation are NO₂, SO₂ and CO. The project triggers PSD review for VOC only and does not have a significant net emissions increase of NO₂, SO₂ or CO. Therefore, a soils and vegetation analysis is not required because no significant impacts are expected.

Growth

The purpose of a growth analysis is to predict how much new growth is likely to occur as a result of the project and the resulting air quality impacts from this growth. The growth analysis evaluates the impact associated with the project on the general commercial, residential, and industrial growth within the project vicinity.

PSD requires an assessment of the secondary impacts from applicable projects. Although the proposed project is expected to employ approximately 25 temporary workers for construction activities, negligible growth during construction is expected and minimal long-term growth (i.e., general commercial, residential, industrial or other secondary growth in the area) is expected following the completion of the project because no additional employees will be required to operate the modified mill. Therefore, no analysis of secondary impacts from associated growth is warranted for this project.

Visibility

VOC emissions do not impact visibility. Therefore, the project will not impact Class I and Class II visibility for purposes of PSD review of the project.

The PSD regulations require an evaluation of the impact of project emissions on visibility in Class II areas. The analysis is required only for those pollutants for which PSD review is triggered. The relevant pollutants for visibility are PM, NOx and SO₂. The project triggers PSD review for VOC only and does not have a significant net emissions increase of PM, NOx and SO₂. Therefore, a visibility analysis is not necessary because no significant impacts are expected.

8.0 GEORGIA TOXIC AIR POLLUTANT MODELING ANALYSIS

Georgia EPD regulates the emissions of toxic air pollutant (TAP) emissions through a program covered by the provisions of *Georgia Rules for Air Quality Control*, 391-3-1-.02(2)(a)3.(ii). A TAP is defined as any substance that may have an adverse effect on public health, excluding any specific substance that is covered by a State or Federal ambient air quality standard. Procedures governing the Georgia EPD's review of TAP emissions as part of air permit reviews are contained in the agency's "Guideline for Ambient Impact Assessment of Toxic Air Pollutant Emissions (Revised)."

Selection of Toxic Air Pollutants for Modeling

For projects with quantifiable increases in TAP emissions, an air dispersion modeling analysis is generally performed to demonstrate that off-property impacts are less than the established Acceptable Ambient Concentration (AAC) values. The TAP evaluated are restricted to those that may increase due to the proposed project. Thus, the TAP analysis would generally be an assessment of off-property impacts due to facility-wide emissions of any TAP emitted by a facility. To conduct a facility-wide TAP impact evaluation for any pollutant that could conceivably be emitted by the facility is impractical. A literature review would suggest that at least one molecule of hundreds of organic and inorganic chemical compounds could be emitted from the various combustion units. This is understandable given the nature of VOC and TAP evaporated from the drying of lumber. The vast majority of compounds potentially emitted however are emitted in only trace amounts that are not reasonably quantifiable.

Per Section 3.0 and Appendix A of the PSD application, the facility uses the NCASI emission factors for direct fired lumber drying kilns. The Division agrees with the facility to use the NCASI methanol, formaldehyde, and acetaldehyde emission factors. The toxic impact analysis is discussed in Section 6.0 and Appendix B of the PSD application.

For each TAP identified for further analysis, both the short-term and long-term AAC were calculated following the procedures given in Georgia EPD's Toxic Guideline. Figure 8-3 of Georgia EPD's Guideline contains a flow chart of the process for determining long-term and short-term ambient thresholds. Beadles & Balfour, LLC referenced the resources previously detailed to determine the long-term (i.e., annual average) and short-term AAC (i.e., 24-hour or 15-minute). The AACs were verified by the EPD.

Determination of Toxic Air Pollutant Impact

The Georgia EPD *Air Toxic Guideline* recommends a tiered approach to model TAP impacts, beginning with screening analyses using SCREEN3, followed by refined modeling, if necessary, with ISCST3 or ISCLT3. For the refined modeling completed, the infrastructure setup for the SIA analyses was relied upon with appropriate sources added for the TAP modeling. Note that per the Georgia EPD's *Guideline*, downwash was not considered in the TAP assessment.

Initial Screening Analysis Technique

Generally, an initial screening analysis is performed in which the total TAP emission rate is modeled from the stack with the lowest effective release height to obtain the maximum ground level concentration (MGLC). Note the MGLC could occur within the facility boundary for this evaluation method. The individual MGLC is obtained and compared to the smallest AAC. Due

to the likelihood that this screening would result in the need for further analysis for most TAP, the analyses were initiated with the secondary screening technique.

The impacts of facility-wide TAPs emissions were evaluated to demonstrate compliance according to the Georgia Air Toxics Guideline. The primary TAP emissions from the proposed facility are Acetaldehyde, Formaldehyde, and Methanol. The annual, 24-hour, and 15-minute AACs of the three TAPs were reviewed based on U.S. EPA IRIS reference concentration (RfC), OSHA Permissible Exposure (PEL), ACGIH Threshold Limit Values (TLV) including STEL (short term exposure limit) or ceiling limit, and NIOSH Recommended Standards (REL) according to the Georgia Air Toxics Guideline. The modeled MGLCs were calculated using the AERMOD dispersion model (v18081) for 1-hour, 24-hour, and annual averaging periods.

Note that in the modeling, the facility assumed that emissions from each continuous kiln (ID Nos. CDK1 and CDK2) would only be emitted through the power vents, and no emissions would escape from any other openings, including the kiln doors. Since the power vents are the only permanent openings in the kiln that are equipped with fans, and the facility assumed 100% of the kiln emissions exhaust into the atmosphere through the power vents only, the facility must meet the definition of Permanent Total Enclosure (PE) in Reference Method 204 in order to validate their assumption in the modeling.

Table I summarizes the AAC levels and MGLCs of the TAPs. The maximum 15-min impact is based on the maximum 1-hour modeled impact multiplied by a factor of 1.32. As shown in Table I, the modeled MGLCs for all three TAPs are below their respective AAC levels.

Averaging Averaging MGLC AAC MGLC AAC CAS Pollutant Period $(\mu g/m^3)$ $(\mu g/m^3)$ Period $(\mu g/m^3)$ $(\mu g/m^3)$ 75070 Acetaldehyde Annual 1.24 4.55 15-min 20 4,500 Formaldehyde 50000 Annual 1.1 15-min 18 245 1.06 Methanol 67561 24-hr 33 619 15-min 73 32,800

Table I. Modeled MGLCs and the Respective AACs

Conclusions

The air quality analysis reviewed and described above demonstrates the conformance of the project's air pollutant impacts with Class I and Class II PSD NAAQS regulations and GA EPD's *Guideline for Ambient Impact Assessment of Toxic Air Pollutant Emissions*. The additional air quality impact on soil, vegetation, and visibility is expected to be very minimal.

For these reasons, it is recommended a permit to be issued based on the project design and operating hours described in the application.

9.0 EXPLANATION OF DRAFT PERMIT CONDITIONS

The permit requirements for this proposed facility are included in draft Permit Amendment No. 2421-017-0008-V-05-1.

Section 1.0: Facility Description

West Fraser – Fitzgerald Lumber Mill submitted a Title V permit amendment application dated April 18, 2018, which was logged in as Application No. TV-234867, for the authorization to construct and operate two direct natural gas-fired continuous kilns (ID Nos. CDK1 and CDK2) that will replace existing Kilns KL01 and KL02. The facility also requested to incorporate the off-permit-change that was approved on April 10, 2018, for replacing the planer mill (ID No. PL) and its cyclone (PLCY) with a new planer mill (ID No. PL) and a new cyclone (ID No. PLCY2), into the permit amendment.

Section 2.0: Requirements Pertaining to the Entire Facility

No conditions in Section 2.0 are being added, deleted or modified as part of this permit action.

Section 3.0: Requirements for Emission Units

	Emission Units	Specific Limitations	s/Requirements	Air Pollution Control Devices	
ID No.	Description	Applicable Requirements/Standards	Corresponding Permit Conditions	ID No.	Description
KL01	Drying Kiln No. 1 Direct-fired / Batch Fuel Type = Wood Capacity = 60 MMbf/yr	40 CFR 63 Subpart A 40 CFR 63 Subpart DDDD 391-3-102(2)(b)1. 391-3-102(2)(e)1. 391-3-102(2)(g)2. 391-3-102(2)(n)	3.2.3, 3.4.1, 3.4.2, 3.4.3, 3.4.4, 3.4.5, 6.2.1	N/A	None
KL02	Drying Kiln No. 2 Direct-fired / Batch Fuel Type = Wood Capacity = 60 MMbf/yr	40 CFR 63 Subpart A 40 CFR 63 Subpart DDDD 391-3-102(2)(b)1. 391-3-102(2)(e)1. 391-3-102(2)(g)2. 391-3-102(2)(n)	3.2.3, 3.4.1, 3.4.2, 3.4.3, 3.4.4, 3.4.5, 6.2.1	N/A	None
KL03	Drying Kiln No. 3 Direct-fired / Batch Fuel Type = Wood Capacity = 60 MMbf/yr	40 CFR 63 Subpart A 40 CFR 63 Subpart DDDD 391-3-102(2)(b)1. 391-3-102(2)(e)1. 391-3-102(2)(g)2. 391-3-102(2)(n)	3.2.3, 3.4.1, 3.4.2, 3.4.3, 3.4.4, 3.4.5, 6.2.1	N/A	None
CDK1	Drying Kiln No. 4 Direct-fired / Continuous Fuel Type = Wood Capacity = 120 MMbf/yr	40 CFR 63 Subpart A 40 CFR 63 Subpart DDDD 391-3-102(2)(b)1. 391-3-102(2)(e)1. 391-3-102(2)(g)2. 391-3-102(2)(n)	3.2.1, 3.2.3, 3.2.4, 3.2.5, 3.2.6, 3.2.7, 3.2.8, 3.3.1, 3.4.4, 3.4.5, 3.4.6, 3.4.7, 6.1.7, 6.2.1, 6.2.2, 6.2.3	N/A	None
CDK2	Drying Kiln No. 5 Direct-fired / Continuous Fuel Type = Wood Capacity = 120 MMbf/yr	40 CFR 63 Subpart A 40 CFR 63 Subpart DDDD 391-3-102(2)(b)1. 391-3-102(2)(e)1. 391-3-102(2)(g)2. 391-3-102(2)(n)	3.2.1, 3.2.2, 3.2.4, 3.2.5, 3.2.6, 3.2.7, 3.2.8, 3.3.1, 3.4.4, 3.4.5, 3.4.6, 3.4.7, 6.1.7, 6.2.1, 6.2.2, 6.2.3	N/A	None

Emission Units		Specific Limitations/Requirements		Air Pollution Control Devices	
ID No.	Description	Applicable Requirements/Standards	Corresponding Permit Conditions	ID No.	Description
PL	Planer Mill	391-3-102(2)(b)1. 391-3-102(2)(e)1. 391-3-102(2)(n)	3.4.1, 3.4.2, 3.4.4, 3.4.5, 3.4.6, 3.4.7 , 5.2.1, 6.1.7	PLCY2	Planer Mill Shavings Cyclone 2
НМ	Hammer Mill	391-3-102(2)(b)1. 391-3-102(2)(e)1. 391-3-102(2)(n)	3.4.1, 3.4.2, 3.4.4, 3.4.5, 3.4.6, 3.4.7 , 5.2.1, 6.1.7	НМСҮ	Hammer Mill Cyclone

Generally applicable requirements contained in this permit may also apply to emission units listed above. The lists of applicable requirements/standards and corresponding permit conditions are intended as a compliance tool and may not be definitive.

New Condition 3.2.1 includes the requirements of 40 CFR 52.21(r)(1). The facility is required to construct and operate Kilns CDK1 and CDK2 in accordance with Application No. TV-234867.

New Condition 3.2.2 includes the requirements of 40 CFR 52.21(r)(2). This condition specifies when the facility must commence construction of Kilns CDK1 and CDK2.

Since existing Kilns KL01, KL02, and KL03 will be replaced by new Kilns CDK1 and CDK2, and existing Kilns KL01, KL02, and KL03 are not included in the PSD application and did not go through the BACT analysis and modeling, they must be shut down and removed once the new kilns start operation. This is required by new Condition 3.2.3.

New Condition 3.2.4a. requires that the facility operate the power vents on Kilns CDK1 and CDK2 at all times when the kilns are in operation. The facility meets the GA Toxic Guideline by running the power vents whenever the kilns are in operation. Operating the kilns without the power vents is a violation to the GA Toxic Guideline.

As discussed previously, the facility assumed 100% of the kiln exhaust exit the kilns through their power vents, and the doors have zero emissions in their toxic impact assessment. Therefore, the facility is required by Condition 3.2.4b. to operate the power vents so that no air/exhaust in the kiln would exit any openings other than the power vents. The most practical way of achieving it is to run the power vents at or above the minimum flowrate recorded during the performance tests that would generate the minimum differential pressure across each opening.

New Condition 3.2.5 contains the VOC BACT throughput limit, 240 MMbf/yr, for new Kilns CDK1 and CDK2.

New Condition 3.2.6 includes the fuel requirements for Kilns CDK1 and CDK2 once the two new kilns start operation.

New Condition 3.2.7 includes the Work Practice and Preventive Maintenance Program requirements to ensure that the facility actually employs proper kiln operation and maintenance practices, which is the determined VOC BACT for Kilns CDK1 and CDK2. Note that the condition contains specific operating and maintenance requirements tailored for the two new kilns.

^{**} New emission unit is in bold.

^{***} New and modified conditions are in bold.

^{****} PLCY2 was authorized to be constructed per an OPC approval letter dated April 10, 2018 to replace existing Cyclone PLCY as part of the planer mill replacement modification.

The facility's toxic impact assessment assumed that all emissions exit the continuous kilns through power vent stacks. Therefore, the Division requires that the facility test the permanent total enclosure per Condition 4.2.1 to validate the assumption. If the facility fails to validate the permanent total enclosure assumption, the facility is required by new Condition 3.2.8 to submit a revised toxic impact assessment and demonstrate compliance with the Georgia Air Toxic Guidelines.

Since the facility becomes a major source for single/combined HAP after the modification, new Condition 3.3.1 subjects the new continuous drying kilns (ID Nos. CDK1 and CDK2) to all applicable requirements specified in 40 CFR 63 Subpart A and Subpart DDDD.

Existing Conditions 3.4.1, 3.4.2, and 3.4.3 have been modified that they become null and void after the initial startup of new Kilns CDK1 and CDK2. The GA Rule (b) visible emission standard and GA Rule (e) PM emission standards for all existing processes and the two new kilns are included in new Conditions 3.4.6 and 3.4.7.

Section 4.0: Requirements for Testing

As discussed for Conditions 3.2.4b. and 3.2.8, the facility must prove that their assumption in their toxic impact assessment is real. They must prove, using Method 204, that the differential pressure across each opening of the kilns (ID Nos. CDK1 and CDK2) other than the power vents shows a vacuum in satisfactory to the definition of permanent total enclosures in Method 204. During the performance tests, the facility must establish a minimum differential pressure that guarantees no air escaping from the kilns through the doors. Per Condition 3.2.4b., the facility may also establish the minimum power vent flow rate that will generate the minimum differential pressure across each opening.

Section 5.0: Requirements for Monitoring

Existing Condition 5.2.1 has been modified because existing Cyclone PLCY has been replaced by new Cyclone PLCY2. The weekly inspection requirements would also apply to PLCY2.

Section 6.0: Other Recordkeeping and Reporting Requirements

Existing Condition 6.1.7 has been modified to include the following new exceedances and excursion:

- New Subparagraph b.i. defines an exceedance as any twelve consecutive month period for which the total amount of lumber dried in drying kilns (ID Nos. CDK1 and CDK2), combined, exceeds 240 million board feet. This would be a PSD violation.
- New Subparagraph b.ii. defines an exceedance as any time, after the initial startup of new Kilns CDK1 and CDK2, that the fuel burned in the drying kilns (ID Nos. CDK1 and CDK2) does not meet the requirements specified in Condition 3.2.6.
- New Subparagraph c.ii. defines an excursion as any time Drying Kilns CDK1's and CDK2's power vents are not operated when the associate kiln is in operation. This would be a violation to the GA Toxic Guideline.

New Condition 6.2.1 requires that the facility notify the Division when the new continuous lumber drying kilns (ID Nos. CDK1 and CDK2) initially starts up. It also requires that the facility notify when they permanently cease the operation of existing Kilns KL01, KL02, and KL03.

New Condition 6.2.2 requires that the facility calculate and record the monthly amount of dried lumber processed through Kilns CDK1 and CDK2, combined, for each month in the reporting period. If any monthly record exceed 20 MMbf, the facility must notify the Division in writing within 15 days of the following month, and month and include an explanation of how the Permittee intends to maintain compliance with the production limit in Condition 3.2.5.

New Condition 6.2.3 requires that the facility calculate and record the combined 12-month rolling total of dried lumber processed through Kilns CDK1 and CDK2, combined, ending in each month in the reporting period.

Section 7.0: Other Specific Requirements

No conditions in Section 7.0 are being added, deleted or modified as part of this permit action.

APPENDIX A

EPD'S PSD Dispersion Modeling and Air Toxics Assessment Review

APPENDIX B

EPD's Facility-wide PTE and Emission Increase Calculations for Criteria Pollutants, Total GHG, and Single/Combined HAP